

Application No.: 10/674,250
Supplemental Amendment dated: 12/21/05
Reply to Office Action mailed: 10/14/05

Remarks/Arguments

The rejection of Applicants' claims 2, 8, 9, 11, 13-17, 19-21, 25, 27, 29 and 30 under 35 U.S.C. 103(a) as unpatentable over the Bauer article (Bauer) in view of U.S. Patent 4,907,405 issued March 13, 1990 to Robert J. Polizzotto (Polizzotto) is respectfully traversed and reconsideration is respectfully requested.

Applicants' claims, as presently amended, require a process and system wherein the power to liquefy a light hydrocarbon gas is supplied by electrical motors driving compressors to compress the refrigerant which is then used, as known, to liquefy the light hydrocarbon gas. The electric power is generated on-site or internally by the use of fossil fuel fired turbines which drive electrical generators with additional power being recovered by the use of steam turbines and energy recovery electric generators.

As noted previously, it is considered that Bauer discloses at the bottom of page 60 in the right-hand column, that "Electric motor drivers fed from a public grid are not used for large liquefaction capacities." It is also disclosed that cogeneration of electricity and steam may be a preferred system wherein conversion of the fuel gas outside of the plant battery limits to other forms of energy such as electricity or steam will be more cost effective. It is further disclosed that "The ultimate step of disintegrating the LNG plant from the power generation is a concept in which only electric energy is used to drive all refrigerant cycle compressors (FIG 7). The required electrical energy may be generated by whatever suitable technology. As natural gas supposedly is readily available, a combined cycle power plant is a very strong competitor for the most cost effective solution. "It also has been disclosed ... conversion of fuel gas outside of the battery limits to other forms of energy, such as electricity or steam will be more cost effective."

In any event, whether Bauer is considered to show the use of a cogeneration plant inside the battery limits or outside the battery limits, there is no showing or suggestion that standby fossil fuel fired turbines should be available in combination with suitable

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generators to produce electrical power on short notice when a problem arises with one of the fossil fuel fired turbines or in the event of maintenance, increased demand or the like. This is an important advantage of Applicants' claimed invention as discussed in Applicants' specification in paragraph 17. By positioning the turbines and generators on site rather than outside of the battery limits, it is possible for the facility operator to quickly respond to a need for large quantities of electric power which, as disclosed by Bauer, is not usually supplied from a public grid. Bauer's discussion of the co-generation plant as placed offsite (an industrial power plant) removes the control needed to insure the availability of large amounts of electricity on short notice and possibly for short periods of time.

It is considered that Bauer, taken on balance, discloses that it is preferable to locate the cogeneration facility (industrial power plant) outside the battery limits and it is considered that this location deprives the operator of the liquefaction plant of control over the generating facilities to the detriment of the liquefaction process. As indicated earlier, in Bauer the public grid is generally not available to provide the quantities of power required to drive electrical motors of a size sufficient to drive the required compressors for the liquefaction process. According to Applicants' claimed invention, the requisite power is generated internally with standby fossil fuel turbines available for quick start up as required to replace the turbines in service when necessary for maintenance, equipment failure, added capacity or the like. This is an important feature of Applicants' claimed invention which is presently reflected in all of Applicants' claims and it is respectfully submitted that there is no showing in Bauer that such would be possible or desirable. Accordingly, it is respectfully suggest that Bauer does nothing to show or suggest Applicants' claimed invention.

Polizzotto simply discloses a process which uses a cogeneration facility but in no way suggests that standby fossil fuel turbines are more desirable and more quickly useful

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than alternate sources of electrical power when it is desired to drive the compressor in a liquefaction process with electric motors on short notice.

It is respectfully submitted that neither Bauer nor Polizzotto, taken alone or in combination, shows or suggests Applicants' claimed invention, including the feature which provides for quick response to ensure an adequate supply of electrical power for the operation of the liquefaction plant.

Accordingly, it is respectfully requested that all rejections of Applicants' claims under 35 U.S.C. 103(a) in view of Bauer and Polizzotto be withdrawn.

Since it is now considered that Applicants' claims are in condition for allowance, such is respectfully solicited.

Respectfully submitted,


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